

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

CREE, INC.,

Plaintiff,

v.

SEMILEDs CORPORATION, HELIOS  
CREW CORP., and SEMILEDs  
OPTOELECTRONICS CO., LTD.

Defendants.

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C.A. No. 10-866-PSD

**JOINT CLAIM CONSTRUCTION CHART**

Pursuant to the Scheduling Order (Dkt # 52), Cree, Inc. (“Cree”) and SemiLEDs Corporation, Helios Crew Corporation, and SemiLEDs Optoelectronics Corp., Ltd. (collectively “SemiLEDs”) provide the following proposed constructions of the terms and claim elements which the parties have identified for claim construction purposes.

**U.S. Patent No. 7,737,459**

The parties’ agreed upon constructions of the terms and claim elements from U.S. Patent No. 7,737,459 are set forth below.

<b>Claim Term or Phrase</b>	<b>Agreed Upon Construction</b>
Dominant wavelength	The color of an LED, typically expressed in nanometers. The dominant wavelength describes a measure of the hue sensation produced in the human eye by a light emitting diode.
Area	For a chip or die with different portions having different dimensions, the term “area” means the largest area of semiconductor or substrate material within the die or chip. Expressed in alternative fashion, but with the same meaning, the area is the larger of either (i) the largest semiconductor area in the diode or (ii) the substrate area of the diode that must or will

<b>Claim Term or Phrase</b>	<b>Agreed Upon Construction</b>
	be packaged.
Radiant flux	The output of an LED, typically expressed in watts or milliwatts. The radiant flux, also referred to as the radiant power, is the rate ( $d\theta/dt$ ) at which the radiation field transfers radiant energy from one region to another, as measured by placing an encapsulated lamp in an integrating sphere attached to a spectrometer, or by some comparable method.

**U.S. Patent Nos. 7,211,833 & 7,611,915**

The parties' agreed upon constructions of the terms and claim elements from U.S. Patent Nos. 7,211,833 and 7,611,915 are set forth below.

<b>Claim Term or Phrase</b>	<b>Agreed Upon Construction</b>
Sidewall	The side or edge wall of a layer.

The parties' constructions of the terms and claim elements from U.S. Patent Nos. 7,211,833 and 7,611,915 for which there is a dispute are set forth below.

<b>Claim Term or Phrase</b>	<b>Cree's Proposed Construction</b>	<b>SemiLEDs Proposed Construction</b>
Layer	This term has a well understood meaning, and does not require construction by the Court.	A continuous thickness of matter spread over a surface.
Reflector layer	A layer that reflects light generated by the active region of the LED.	A layer of material with a reflective surface.
Ohmic contact layer	A layer that allows current to pass from a metal material to a semiconductor material with low resistance.	A layer of material where conduction through the contact between the semiconductor region and the material obeys Ohm's law.

<b>Claim Term or Phrase</b>	<b>Cree's Proposed Construction</b>	<b>SemiLEDs Proposed Construction</b>
Conductive barrier layer	A conductive layer that acts as a barrier to reduce migrations between other layers.	A conductive layer that prevents migration of undesired materials to or from the reflector layer.
Directly on	Positioned above, below, or to the side of, with no intervening elements.	Covering with no intervening elements present.

**U.S. Patent No. 6,657,236**

The parties' agreed upon constructions of the terms and claim elements from U.S. Patent No. 6,657,236 are set forth below.

<b>Claim Term or Phrase</b>	<b>Agreed Upon Construction</b>
LED Structure	A structure having at least an epitaxially grown p-type layer, an epitaxially grown n-type layer, and an epitaxially grown active layer between the p-type and the n-type layers.
Adjacent to	Near or next to.

The parties' constructions of the terms and claim elements from U.S. Patent No. 6,657,236 for which there is a dispute are set forth below.

<b>Claim Term or Phrase</b>	<b>Cree's Proposed Construction</b>	<b>SemiLEDs Proposed Construction</b>
Light extraction structures	Features that provide surfaces for reflecting, refracting, or scattering the light generated by the active region of the LED to increase the light extracted from an LED.	Structures on or within an LED made of different material than the LED that provide a spatially varying index of refraction and surfaces to allow light trapped within an LED to refract or reflect and escape. Light extraction structures do not include random or ordered roughening, texturing or rough etching of a surface layer

<b>Claim Term or Phrase</b>	<b>Cree's Proposed Construction</b>	<b>SemiLEDs Proposed Construction</b>
		of a substrate or the epitaxial layers of an LED.
Spreader layer	A layer that spreads current across an LED so that the current is efficiently injected into the active layer.	A layer of a conductive or semiconductive material located outside the LED structure that spreads current across the plane of the device.

**U.S. Patent No. 7,795,623**

The parties' agreed upon constructions of the terms and claim elements from U.S. Patent No. 7,795,623 are set forth below.

<b>Claim Term or Phrase</b>	<b>Agreed Upon Construction</b>
Non-transparent feature	A feature, such as a wire bond pad, that blocks light.

The parties' constructions of the terms and claim elements from U.S. Patent No. 7,795,623 for which there is a dispute are set forth below.

<b>Claim Term or Phrase</b>	<b>Cree's Proposed Construction</b>	<b>SemiLEDs Proposed Construction</b>
Ohmic contact	A contact that allows current to pass from a metal material to a semiconductor material with low resistance.	A layer of material where conduction through the contact between the semiconductor region and the material obeys Ohm's law.
Non-ohmic contact	A contact that provides high resistance to current passing from a metal material to the semiconductor material.	A contact that does not conduct current to the semiconductor region.
A metal contact on a surface of the p-type	The metal contact is located on a surface of the p-type	SemiLEDs does not agree that this long term is appropriate or

<b>Claim Term or Phrase</b>	<b>Cree's Proposed Construction</b>	<b>SemiLEDs Proposed Construction</b>
semiconductor layer opposite the n-type semiconductor layer, wherein the metal contact forms on ohmic contact to the p-type semiconductor layer in a region other than a reduced conductivity area of the surface of the p-type semiconductor layer that is aligned with the non-transparent feature	semiconductor layer and forms an ohmic contact that allows current to pass from the metal contact to the p-type semiconductor layer in an area other than a reduced conductivity area of the surface of the p-type semiconductor layer that is underneath the non-transparent feature (e.g. underneath the wire bond pad), such that there is no ohmic contact in the reduced conductivity area of the surface of the p-type semiconductor layer.	manageable for construction and has proposed construction of distinct phrases. To facilitate the Court's review, SemiLEDs presents its constructions within the claim term Cree seeks to construe. As a whole, this term is indefinite.  A metal contact on a surface of the p-type semiconductor layer opposite the n-type semiconductor layer, wherein the metal contact forms "on ohmic contact" that allows current to pass from the metal contact to the p-type semiconductor layer in a manner that obeys Ohm's law. The metal contact forms this "on ohmic contact" to the p-type semiconductor layer in a region that is not the reduced conductivity portion of the p-type semiconductor layer and not under the non-transparent feature on the n-type semiconductor layer, such that the outer edges of the reduced conductivity area and the outer edges of the non-transparent feature are congruent.
Wherein the metal contact forms on ohmic contact	Construed as part of larger phrase above as: The metal contact forms an ohmic contact that allows current to pass from the metal contact to the p-type semiconductor layer	Indefinite. "Ohmic contact" construed above.
Is aligned with the non-transparent feature	Construed as part of larger phrase above as: Is underneath the non-transparent feature.	The outer edges of the reduced conductivity area and the outer edges of the non-transparent feature are congruent.

<b>Claim Term or Phrase</b>	<b>Cree's Proposed Construction</b>	<b>SemiLEDs Proposed Construction</b>
In a region other than a reduced conductivity area of the surface of the p-type semiconductor layer	Construed as part of larger phrase above according to its plain and ordinary meaning: In a region other than a reduced conductivity area of the surface of the p-type semiconductor layer.	In a region of the p-type semiconductor that is not the reduced conductivity portion of the p-type semiconductor and not under the non-transparent feature on the n-type semiconductor layer.

**U.S. Patent No. 7,557,380**

The parties' agreed upon constructions of the terms and claim elements from U.S. Patent No. 7,557,380 are set forth below.

<b>Claim Term or Phrase</b>	<b>Agreed Upon Construction</b>
Photon absorbing wire bond pad	A light absorbing contact structure to which a wire is subsequently bonded.

The parties' constructions of the terms and claim elements from U.S. Patent No. 7,557,380 for which there is a dispute are set forth below.

<b>Claim Term or Phrase</b>	<b>Cree's Proposed Construction</b>	<b>SemiLEDs Proposed Construction</b>
Substantially congruent	Having substantially the same size and shape.	The same size and shape.
Contact metal	A metal that provides a contact so that current can pass from a metal material to a semiconductor material.	A metal contact layer that is distinct from the active region and provides an ohmic contact to the active region.
Reflective structure	A structure that reflects light generated by the active region of the LED.	A reflective material that does not absorb light.

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